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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,503	07/13/2005	Volker Mittendorf	12810-00379-US	5918
23416 7590 04/07/2009 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899				
EXAMINER				
MCILWAIN, ELIZABETH F				
ART UNIT		PAPER NUMBER		
1638				
MAIL DATE		DELIVERY MODE		
04/07/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/523,503

**Applicant(s)**

MITTENDORF ET AL.

**Examiner**

Elizabeth F. McElwain

**Art Unit**

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-13, 16, 20-22, 24, 33, 34, 37-40 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13, 16, 20-22, 24, 33, 34, 37-40 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

The amendment filed December 16, 2008 has been entered.

Claims 1-9, 14, 15, 17-19, 23, 25-32, 35, 36 and 41-46 are cancelled.

Claims 10-13, 21, 22, 24, 34 and 37 are currently amended.

Claim 47 is newly submitted.

Claims 10-13, 16, 20-22, 24, 33, 34, 37-40 and 47 are pending and are examined on the merits.

***Claim Rejections - 35 USC § 112***

The rejections of the claims under 35 USC 112, second paragraph are withdrawn in view of the amendment of the claims.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10-13, 16, 20-22, 24, 33, 34, 37, 38, 40 and 47 are rejected under 35

U.S.C. 102(b) as being anticipated by Dormann et al (Science 284: 2181-2184, 1999) for the reasons set forth in the last office action, and the increase in the level of a seed storage compound would be inherent in a plant transformed with the same gene and in a method comprising the same steps. In addition, reciting an intended use does not differentiate a known product.

3. Applicants' arguments filed December 16, 2008 have been fully considered but they are not persuasive. Applicants' assert that the remaining claims recite an increase in the level of a seed storage compound. The Examiner maintains that the rejection is proper given that such an increase would be inherent in a plant transformed with the same gene and in a method comprising the same steps. In addition, reciting an intended use does not differentiate a known product.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10-13, 16, 20-22, 24, 33, 34, 37-40 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dormann et al (Science 284: 2181-2184, 1999) in view of Goodman (US Patent 4,956,282).

7. Dormann et al teach SEQ ID NO: 23 cloned into an expression vector, a method of transforming a dicot plant with said nucleic acid, and plants transformed therewith, as set forth in the rejection under 35 USC 102(b). Dormann et al also teach that an Arabidopsis mutant that is impaired in expression of said sequence has a 90% reduction in digalactosyl glycerol content (see page 2182, the first full paragraph in the first column) and a significant reduction in alpha-linolenic acid derived from the digalactosyldiacylglycerol, for example (see Table 1), which are seed storage compounds.

8. Dormann et al do not teach transformation of monocots.

9. Goodman et al teach the expression of heterologous proteins in monocot and dicot plants.

10. Given the teachings of Dormann et al of the transformation of the *dgd1* Arabidopsis mutant with SEQ ID NO: 23 to restore the wild type Arabidopsis phenotype and levels of seed storage compounds, one of ordinary skill in the art at the time the invention was made would have been motivated to use the teachings of Dormann et al for producing a plant transformed with SEQ ID NO: 23 to modify or increase the level of a seed storage compound in any plant species by modifying this using the methods taught by Goodman et al for transformation of monocot plant species, for example. Thus the claimed invention would have been *prima facie* obvious as a whole at the time it was made, especially in the absence of evidence to the contrary.

11. Applicants' arguments filed December 16, 2008 have been fully considered but they are not persuasive. Applicants' assert that neither of the references teach a modified or increased level of a seed storage compound in a transgenic plant. The Examiner maintains that the Dormann et al teach an increase in some seed storage compounds. Applicants further argue that

it would not have been obvious to substitute the heterologous protein of Goodman for the sequence taught by Dormann et al. In response, the Examiner has restated the obviousness rejection. In addition, applicants argue that Dormann et al disclose that "expression of DGD1 alone did not lead to digalactosyl lipid biosynthesis", pointing to page 2183, the right column, second paragraph. However, the Examiner responds that this paragraph is related to expression of the plant pathway in *E. coli*.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EFM

/Elizabeth F. McElwain/  
Primary Examiner, Art Unit 1638